

# SPECIFICATION

Electronic Version 1.2.8

Stylesheet Version 1.0

## GOLF PRACTICE DEVICE

### Background of Invention

[0001] This invention relates to a golf practice device that presents a display when struck by a golf ball. In particular, it relates to a golf practice device having a battery, an on-off switch, a sensor switch, an integrated circuit (IC) chip, and a speaker.

[0002] One of the most challenging parts of golf is accurate putting. Dedicated golfers practice putting using a practice green or various types of putting practice equipment, such as small tunnels into which the ball is putted. However, some putting practice equipment can be used from only one direction and may not work well on greens that are not flat.

### Summary of Invention

[0003] I have invented a golf practice device which can be used to improve the putting accuracy of a golfer. The device can be pushed into a golfing green or placed on a carpet, turned on, and used immediately. The golfer can putt to the device from any direction, regardless of the slope of the green. Each time the device is struck by a golf ball, it plays a sound, rewarding the golfer for an accurate putt.

### Brief Description of Drawings

[0004] Figure 1 is an isometric view of a golf practice device according to this invention inserted into a putting green.

[0005] Figure 2 is an exploded isometric view of the golf practice device of Figure 1.

[0006] Figure 3 is a circuit diagram for the golf practice device of Figure 1.

[0007] Figure 4 is an isometric view of an alternative golf practice device according to this invention.

## Detailed Description

[0008] In Figure 1, a golf practice device 1 consists of a head portion 3 and a pin portion 4. The lower part of pin portion 4 is imbedded in a putting green 5.

[0009] Referring now to Figure 2, head portion 3 has a cap 6, which snaps onto housing 7. Housing 7 fits over speaker holder 8, which in turn holds speaker 9. Wires 10 connect speaker 9 to printed circuit board (PCB) 11. (PCB 11 contains a transistor, resistors, capacitors, and an integrated circuit chip, all shown on Figure 3.) On-off switch 12 closes an electrical circuit when speaker holder 8 and speaker 9 are pushed downward and opens the electrical circuit when speaker holder 8 and speaker 9 are pushed downward a second time. On-off switch 12 can be, for example, a single rubber key containing a carbonaceous-silicon material. Under PCB 11 are two button cell batteries 13 held in battery contact 14, which connects the batteries to PCB 11. On a second PCB 15 is mounted a metal ferrule 16 with a metal spring 17 inside, forming sensor switch 18. Ferrule 16 is connected by wire 19 to PCB 11 and spring 17 is connected by wire 20 to PCB 11. When a ball strikes device 1, device 1 moves slightly in the direction the ball is moving, but spring 17 does not initially move and it is struck by the moving ferrule 16, closing an electrical circuit. The closed circuit causes PCB 11 to generate an electrical signal that is impressed on current going to speaker 9, which plays a sound. Screws 21 hold pin portion 4 to head portion 3.

[0010] In Figure 3, two batteries 13, connected in series, provide power for generating a sound when a ball strikes tee 1. Batteries 13 can be replaced by unscrewing screws and separating pin portion 4 from head portion 3. A transistor 22 permits IC chip 23 to impose the electrical signal for the sound on current flowing from batteries 13 to speaker 9. Also shown are two resistors 24 and two capacitors 25, which are used for proper circuit function as is known in the electrical arts. Batteries 13, on-off switch 12, sensor switch 18, and speaker 9 are connected in series.

[0011] The sound generated by the device is preferably the sound of a ball falling into a cup, but it could also be a short melody, a siren, a human voice, or other sound. Instead of using a speaker and playing a sound when the device is struck by a ball, another type of display could be used, such as a flashing light, or both a sound and a light. It is also possible to eliminate on-off switch 12 so that the device is activated

only by sensor switch 18.

[0012] The cap, housing, and pin portions of the tee are preferably made from molded impact-resistant plastic, such as acrylonitrile-butadiene-styrene, but metals, other types of plastic, or other materials could also be used. On-off switch 12 is commercially available from, for example, Food Tin Ltd. of the first Industrial Division of Ping Di, Baoan, Shenzhen, China. Sensor switch 18 is made by mounting ferrule 16 and spring 17 on a printed circuit board. IC chip 21 is a commercially available chip such as "94HB," a 1.6 mm singled chip sold by Kei Wai Ltd. of the fifth Industrial Estate, Tongsha, Dongguan, China. Other types of chips for generating displays are also commercially available.

[0013] To use the golf practice device of Figure 1, it is pushed into the ground, preferably a putting green, which can be flat or hilly. The speaker cover at the center of the cap is pressed downward to turn the device on. The golfer puts to the device from any direction and the device will present the display as a reward when it is struck by the ball. Because the device is smaller than a golf cup, once putting accuracy is achieved using the device, it is easier to putt accurately to a cup. When finished, the golfer presses the speaker cover downward a second time to turn it off and then removes it from the ground.

[0014] Figure 4 shows an alternative embodiment 26 of a golf practice device. It is similar to the device of Figure 1 except that on the base of head portion 27 is mounted a material 28 made of small hooks that can releasably attach to fabric, such as "Velcro." The device is placed on a fabric, such as a carpet, so that material 28 adheres to the fabric. It is then turned on and is putted to in the same manner as the device of Figure 1. Material 28 prevents head portion 27 from moving across the fabric when it is struck by a golf ball.